



Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

*(Use as many sheets as necessary)*

### Complete if Known

Application Number	10/724,833
Filing Date	December 2, 2003
First Named Inventor	Thomas Nelson
Art Unit	1653
Examiner Name	Rooke, Agnes Beata
Attorney Docket Number	17357.01302US

Sheet 1 of 4

## U. S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	Page #
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (# known)	MM-DD-YYYY			
AR		WO 98/13385	04/02/1998	Univ. of Strathclyde		
		WO 99/04761	02/04/1999	Pharmacia & Upjohn		
		EP 0 277 849 A1	08/10/1988	Ire Celltarg SA		
		WO WO 92/21330	12/10/1992	Samain et al.		
		WO 87/02061	04/09/1987	Protter et al.		

Examiner Signature	Agnes B. Rooke	Date Considered	Feb, 4, 2005
-----------------------	----------------	--------------------	--------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/724,833
		Filing Date	December 2, 2003
		First Named Inventor	Thomas Nelson
		Art Unit	1653
		Examiner Name	Rooke, Agnes Beata
Sheet 2	of 4	Attorney Docket Number	17357.01302US

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AR		Rensen et al., "Human Recombinant Apolipoprotein E-Enriched Liposomes Can Mimic Low-Density Lipoproteins as Carriers for the Site-Specific Delivery of Antitumor Agents." Molecular Pharmacology, 52:445-455, September 1997, XP-002273272	
		Kreuter et al., "Apolipoprotein-mediated Transport of Nanoparticle-bound Drugs Across the Blood-Brain Barrier." Journal of Drug Targeting, 2002 Vol. 10(4) pp. 317-325, XP009027368	
		Versluis et al., "Synthesis of a Lipophilic Daunorubicin Derivative and Its Incorporation into Lipidic Carriers Developed for LDL Receptor-Mediated Tumor Therapy." Pharmaceutical Research, Vol. 15, No. 4, 1998, XP009036781	
		Masquelier et al., "Low Density Lipoprotein as a Carrier of Cytostatics in Cancer Chemotherapy: Study of Stability of Drug-Carrier Complexes in Blood." Journal of Drug Targeting, 2000, Vol. 8, No. 3, pp. 155-164, XP009027575	
		Masquelier et al., "Plasma stability and cytotoxicity of lipophilic daunorubicin derivatives incorporated into low density lipoproteins." Eur. J. Med. Chem. 35 (2000) 429-438	
		Murtha et al., "Synthesis of the Cholesteryl Ester Prodrugs Cholesteryl Ibuprofen and Cholesteryl Flufenamate and Their Formulation into Phospholipid Microemulsions." 1088 Journal of Pharmaceutical Sciences, 83 (1994) September, No. 9, DC, US, XP 00465804	
		Rensen et al., "Recombinant lipoproteins: lipoprotein-like lipid particles for drug targeting." Advanced Drug Delivery Reviews 47 (2001) 251-276, XP-002273271	
		Bhattacharya et al., "Novel distamycin analogues: facile synthesis of cholesterol conjugates of distamycin-like oligopeptides." Tetrahedron Letters 42 (2001) 3499-3502, XP-002299552	
		Reinhardt, R.R. et al., "Insulin-Like Growth Factors Cross the Blood-Brain Barrier," Endocrinology, Vol. 135, No. 5	
↓		Witt, Ken A. et al., "Insulin Enhancement of Opioid Peptide Transport across the Blood-Brain Barrier and Assessment of Analgesic Effect," The Journal of Pharmacology and Experimental Therapeutics, Vol. 295, No. 3, 3100/866639	

Examiner Signature	Agnes B. Rooke	Date Considered	Feb, 1, 2005
--------------------	----------------	-----------------	--------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/724,833
		Filing Date	December 2, 2003
		First Named Inventor	Thomas Nelson
		Art Unit	1653
		Examiner Name	Rooke, Agnes Beata
Sheet 3 of 4	Attorney Docket Number	17357.01302US	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AR		Rigotti, Attilio et al., "The Class B Scavenger Receptors SR-BI and CD36 Are Receptors for Antonic Phospholipids," The Journal of Biological Chemistry, Vol. 270, No. 27, Issue of July 7, pp. 16221-16224, 1995	
		Bradley, William et al., "Low-density Lipoprotein Receptor Binding Determinants Switch from Apolipoprotein E to Apolipoprotein B during Conversion of Hypertriglyceridemic Very-low-density Lipoprotein to Low-density Lipoproteins." The Journal of Biological Chemistry, Vol. 259, No. 23, Issue of December 10, pp. 14728-14735, 1984	
		Veingergs, Isaac et al., "Neurotoxic Effects of Apolipoprotein E4 are Mediated via Dysregulation of Calcium Homeostasis," Journal of Neuroscience Research 67:379-387 (2002)	
		Shibata, Masayoshi et al., "Clearance of Alzheimer's amyloid-B1-40 peptide from brain by LDL receptor-related protein-1 at the blood-brain barrier," The Journal of Clinical Investigation, December 2000, Vol. 106, No. 12	
		Alyaudtin, Renad et al. "Interaction of Poly(butylcyanoacrylate) Nanoparticles with Blood-Brain Barrier in vivo and in vitro," Journal of Drug Targeting, 2001, Vol. 9, No. 3, pp. 209-221	
		Kang, Young-Sook et al., "Stability of the Disulfide Bond in an Avidin-Biotin Linked Chimeric Peptide During in vivo Transcytosis Through Brain Endothelial Cells," Journal of Drug Targeting, 2000, Vol. 8, No. 6, pp. 425-434	
		Pardridge, William M., "CNS Drug Design Based on Principles of Blood-Brain Barrier Transport," J. Neurochem., Vol. 70, No. 5, 1998	
		Bickel, Ulrich et al., "Delivery of peptides and proteins through the blood-brain barrier," Advanced Drug Delivery Reviews, 10 (1993) 205-245	
		Hevononja, Tiia et al., "Structure of low density lipoprotein (LDL) particles: Basis for understanding molecular changes in modified LDL," Biochemica et Biophysica Acta 1488 (2000) 189-210	
✓		Pardridge, William M. et al., "Blood-Brain Barrier: Interface Between Internal Medicine and the Brain," Annals of Internal Medicine, 1986; 105: 82-95	

Examiner Signature	Agnes B. Rooke	Date Considered	Feb, 1, 2005
--------------------	----------------	-----------------	--------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/724,833		
		Filing Date	December 2, 2003		
		First Named Inventor	Thomas Nelson		
		Art Unit	1653		
		Examiner Name	Rooke, Agnes Beata		
Sheet	4	of	4	Attorney Docket Number	17357.01302US

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AR		Wu, Dafang et al., "Pharmacokinetics and Brain Uptake of Biotinylated Basic Fibroblast Growth Factor Conjugated to a Blood-Brain Barrier Drug Delivery System," Journal of Drug Targeting, 2002 Vol. 10(3), pp. 239-245	
↓		Mims, Marth P. et al., "Effect of Particle Size and Temperature on the Conformation and Physiological Behavior of Apolipoprotein E Bound to Model Lipoprotein Particles," Biochemistry 1990, 29, 6639-6647	
✓		Holtzman, David M., "Role of apoE/AB Interactions in the Pathogenesis of Alzheimer's Disease and Cerebral Amyloid Angiopathy," Journal of Molecular Neurosciences, Vol. 17, 2001, pp. 147-155	

Examiner Signature	Agnes B. Rooke	Date Considered	Feb, 1, 2005
--------------------	----------------	-----------------	--------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.